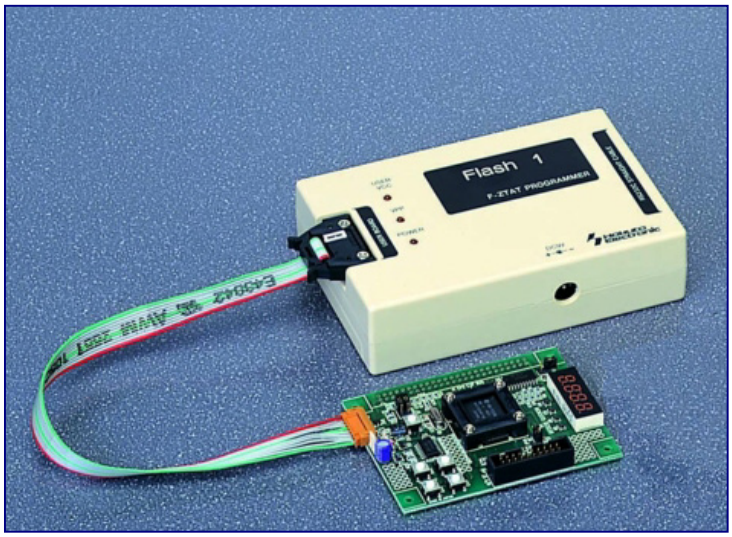
Flash memory MCU On-board Programmer

FLASH1 User's Manual

Windows95, 98



− Please read this carefully before using the product −

F-ZTAT™ is a trademark of Renesas Electronics.
Windows 95 and Windows 98 are products of Microsoft Corporation.

HokutoElectronic Co., Ltd.

REV.2.0.2.0

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● General Precaution

Make sure that you fully understood this user's manual, before using the FLASH1 and power adapter.
Reading the manual is the responsibility of the FLASH1 users to fully understand all the matters.

WARNINGS
Failure to adhere to the following warnings may result in possible heat, smoke and fire damage to FLASH1 and surrounding systems.
1. Don't disconnect and don't reconnect power cables while power is on.
2. Don't remove and don't replace any circuit while power is on.
3. Don't use power voltages other than what is specified in circuit diagram.
4. Be sure to use the correct connector cables when connecting between FLASH1, MCU and peripheral systems.

- Make sure that you fully understood this user's manual, before using the FLASH1. Please keep this manual for feature reference.
- This manual describes the specifications and the usage of FLASH1, and also the provided CD. It does not include the user systems.
- FLASH1 is made up of a programming writer which rewrites programs to a Flash ROM built-in microcomputer made by Renesas Electronics Corp. FLASH1 is not to be used for any other purpose other than that which is specified in the manual.
- The Designs, functions and specifications of this product are subject to change without notice in order to improving its performance and safety.
- This manual and the product are protected by copyright and the industrial property right, and all rights are the property of HokutoDenshi Co., Ltd. All rights are reserved.
- Hokuto Denshi Co., Ltd. has no responsibility for damages and dangers that may come about from incorrect use of FLASH1. All incorrect usage's and subsequent warnings against these usages, that may not have been thought, are the responsibility of the users of FLASH1 who use FLASH1 according to the usage as is specified in the manual.

This guarantee is not valid in the following cases.
1.Fire, earthquake, flood, an accident caused by a third party, etc.
2.Incorrect use, misuse, abuses user mistake and / or use in an improper environment.
3.The product has been altered in any way or tampered with.
4.The method of use has resulted in damage to the product, or a defect with the product.

LIMITED GUARANTEE
Hokuto Denshi Co., Ltd. guarantees that the FLASH1 can be used by the usage described in this manual by Hokuto Denshi Co., Ltd., and guarantees that FLASH1 has been produced correctly and is free of any defects per the products specification. FLASH1 is guaranteed for 1 year after purchase.

General Disclaimer
Hokuto Denshi Co., Ltd. guarantees the product only when the product is used correctly as described in the manual. This guarantee is not valid if the product is misused for purposes other than that specified in the manual. The guarantee is valid only for the materials used to construct the product. Hokuto Denshi Co.,Ltd accepts no responsibility for whatever costs associated directly (or indirectly) with damaged (or faulty) goods. This guarantee is valid for only the original purchaser of the product. Any application for retailing the product by a third party cannot be accepted. The purchaser of the product assumes all responsibility after FLASH1 purchase. The guarantee is not valid for the secondary product.
The prices of FLASH1 and the attachments are subject to change without prior notice.

Stand-alone onboard programmer

Onboard programmer for **VPP12V MCU**

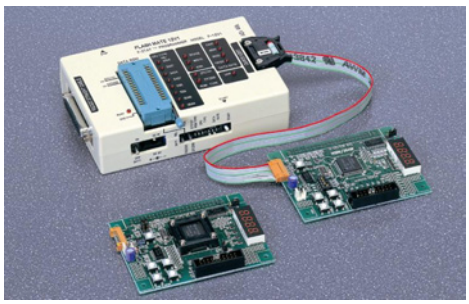
FLASH MATE 12V1

Onboard programming in boot mode for dual power supply MCU likewise **FLASH1**.

- It allows you to program the target MCU from data ROM without PC.
- Its cable, connector, and supported MCU are compatible with **FLASH1**.

Control software for 12V1 is MS-DOS.

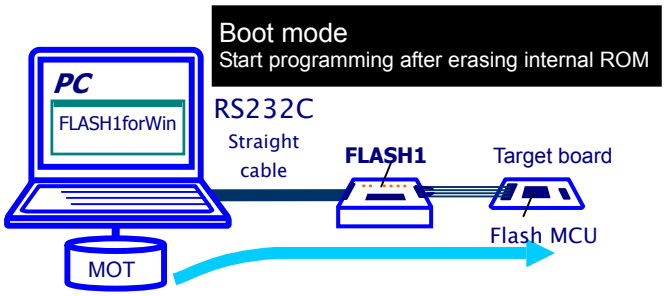
No need to connect to PC.
Use only switches to write.



● FLASH1 Outline

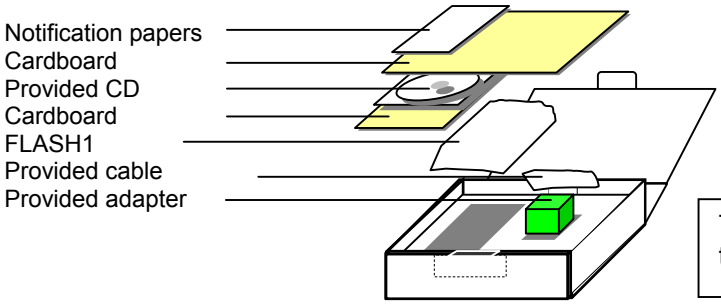
FLASH1 has been designed to program flash memory MCU, made by Renesas Electronics.

This FLASH1 circuit management at writing to memory is fully automated. Writing to the target MCU from the user's PC can be carried out without switch operation smoothly. All of Renesas Electronics dual power supply flash memory MCU is available to reprogram on board.
Attached in this kit, the sample software provides an easy way of confirming the LED movement on the boards HSB series, of our product. We recommend smart choice of using HSB as a target.



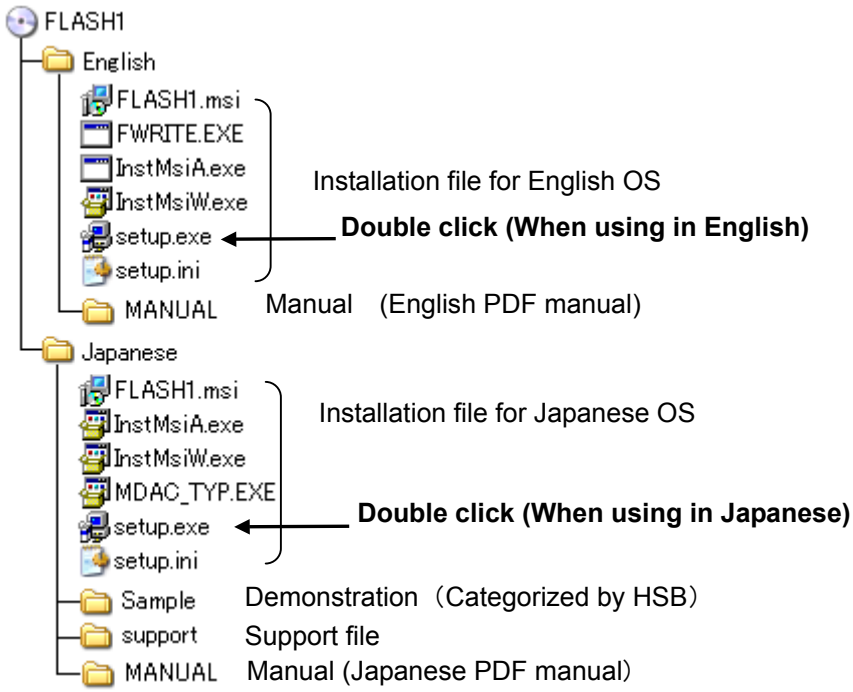
● Contents

Package　The product is packed in the white box. (The box size is **212×277×62mm**)



The PDF manual is recorded in the provided CD.

● The provided CD includes



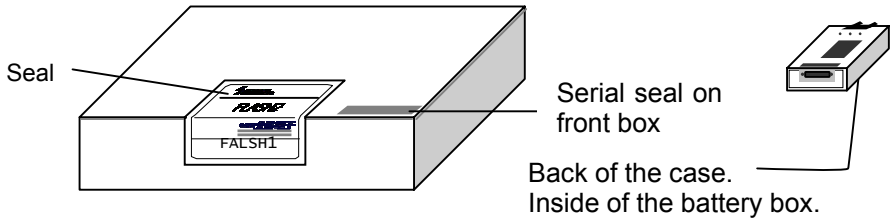
About Demonstration Program
Attached CD also includes the sample program for HSB series MCU board by HokutoElectronicd. In “sample” folder of the CD, there are 4 programs for each MCU type ; freqmeta.mot, stopwat.mot, voltmeta.mot, watch.mot. Please note that all these programs are in Japanese. All comments will be displayed correctly with Japanese OS>

- **Specifications**

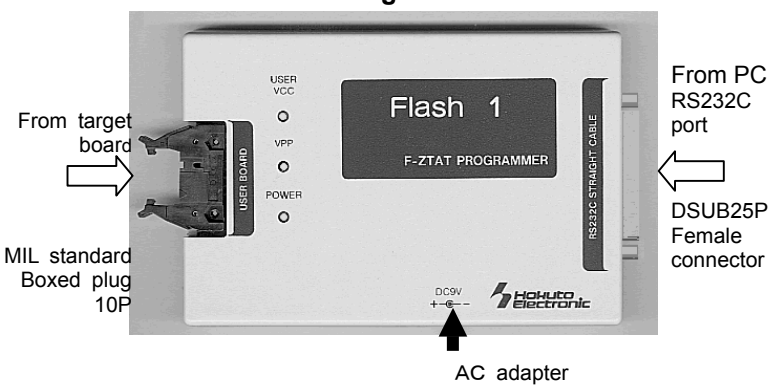
MCU available: All the Renesas Electronics flash memory MCU of dual power supply
H8/538F･H8/539F･H8/3644F(H8/3642RF･H8/3643F)
H8/3048F･H8/3334YF･H8/3337YF･H8/3434F･H8/3437F
Programming mode: Only in boot mode
Target MCU: FVPP=12V (UserVcc is within 2.5～5.5V. Vpp terminal is 60 mA.)
Target interface: IL-S-8S-SS2C2-S (JAE, 8P)
File Format: S format files (Motorola file)
PC available: Windows95/98Japanese version - Some types are not available –
In some types of NEC PC-98sereis, Maximum Bit Rate Adjustment does not work and the instruction halts.
※Please do not operate other applications at the same time.
PC interface: RS232C-serial-port (connecting by using straight cable)
Power Supply: Adapter (DC9V is required)
Or 2 alkaline dry batteries of 1.5V type AA (LR6 / 1.5V)
Case size: 89×134×36mm (not including projection.)
Weight: 180g (not including batteries.)

The serial number place.

※Serial seal on provided CD.



- **FLASH1 The image of the case**



LED state	
USER VCC	When power is supplied from target board, this LED lights up.
VPP	When VPP（１２Ｖ） is supplied, this LED lights up.
POWER	When power is supplied durign USER VCC is lighting up, this LED lights up.

Both batteries and AC adapter can be used as a power supply for **FLASH1**.

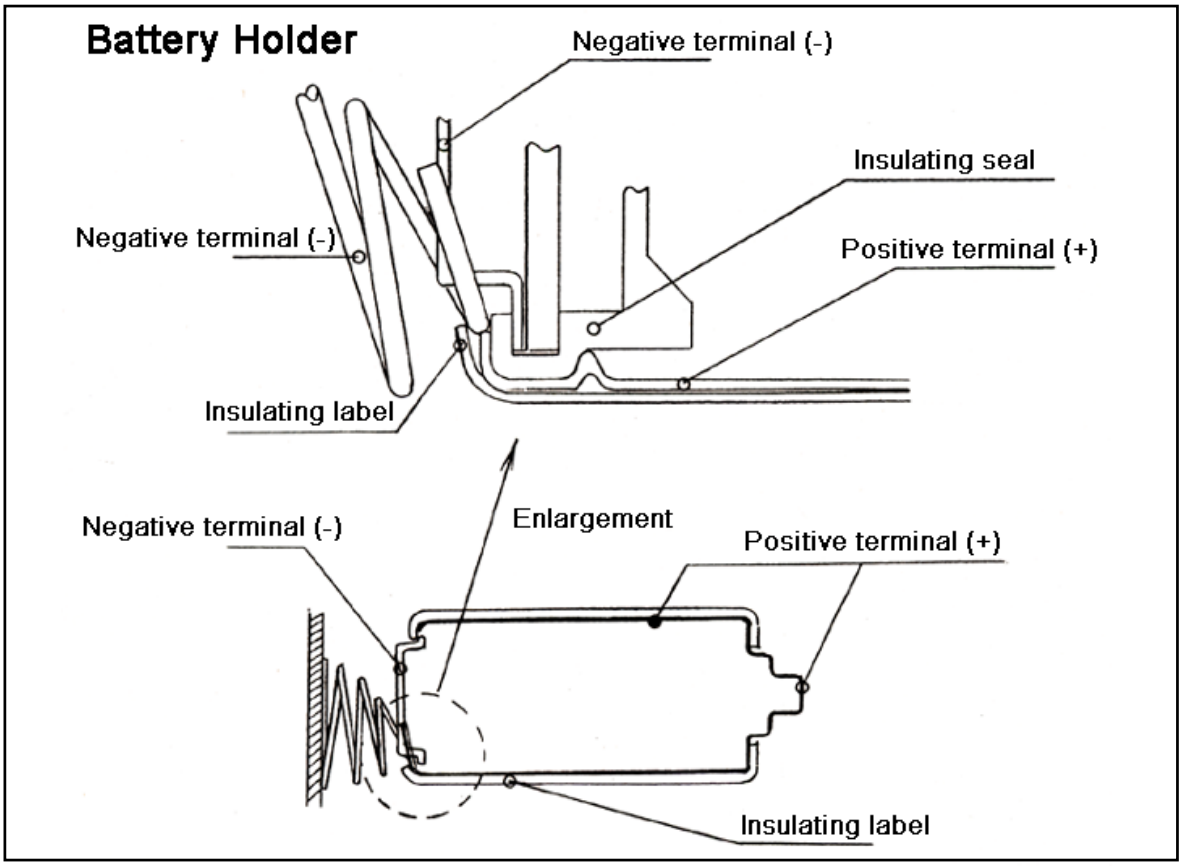
- **Battery Holder Guidance**

Please read <Precaution> before placing the batteries into the battery holder.

＜Precaution＞

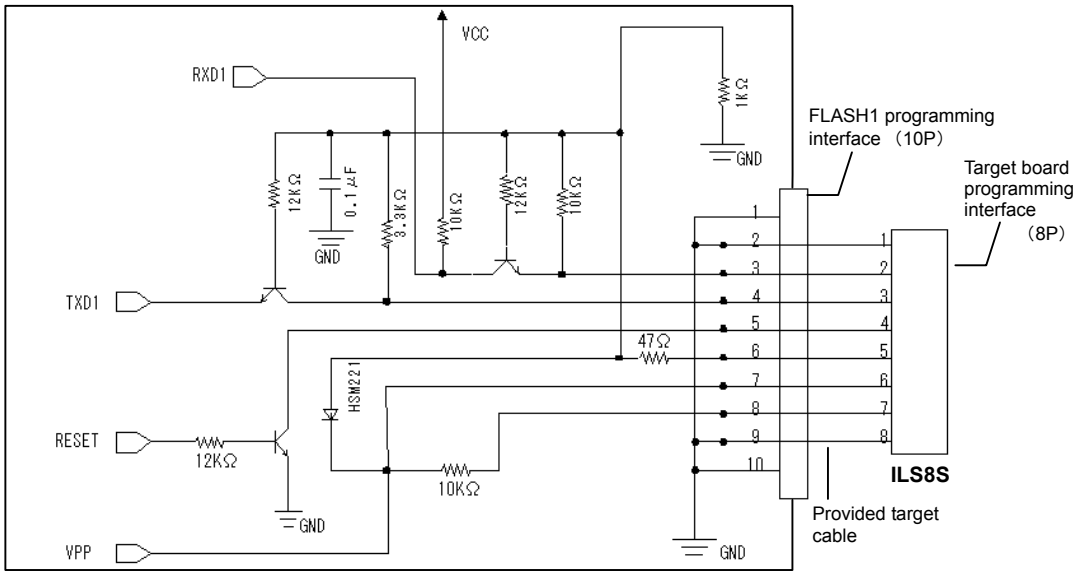
Some of the alkaline batteries contain flexible insulating label to it. When placing that kind of batteries into the battery holder, negative terminal (-) of the battery holder could come into contact with positive terminal (+) inside of the flexible insulating label as shown in the diagram below. It causes electrical short-circuit.

Please do not use the batteries described above. Electrical short-circuit may cause smoke and fire.

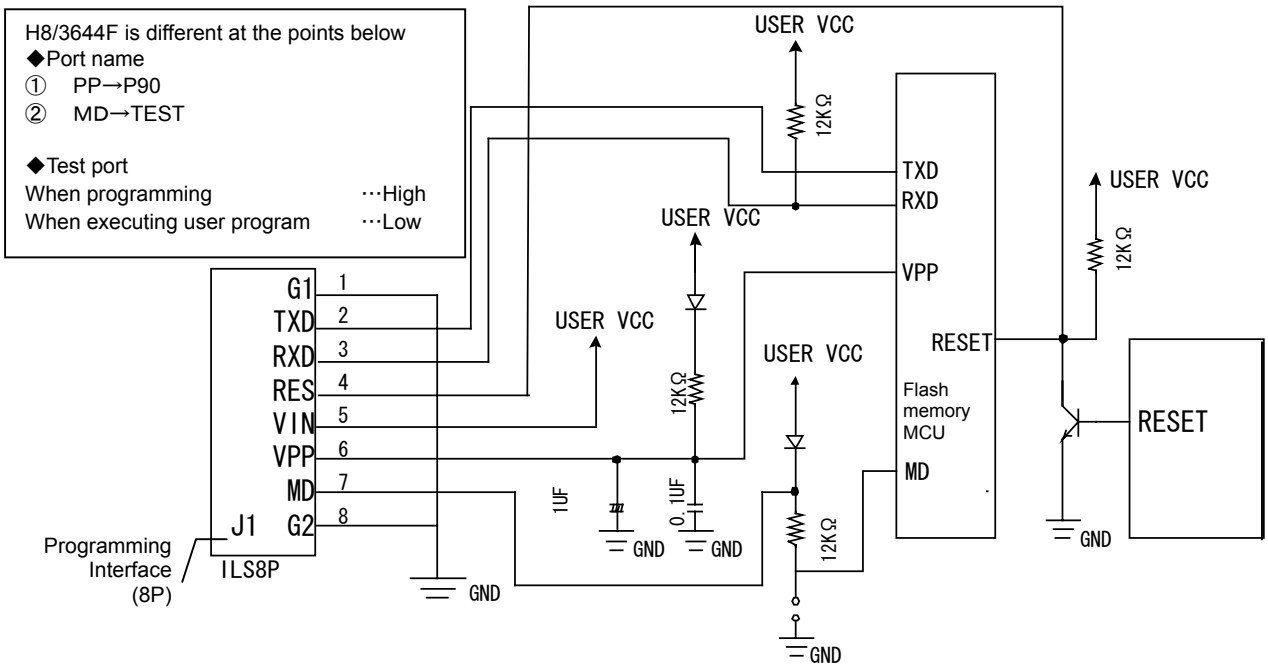


● Preparation 1 - Connector & Cable –

● **FLASH1** Interface Circuit Diagram



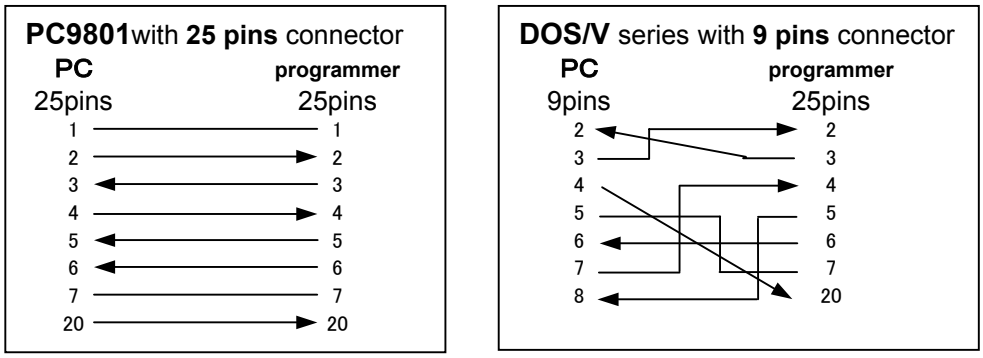
● Reference Circuit Diagram for Target Board



Advice for Making Target Board

1. **FLASH1** Vpp electrode capacities are 60mA as maximum.
2. Please note that MD port
3. RESET is supposed to be driven with open collector.
   Send **FLASH1** reset signal to MCU reset port with no delay.
   Connect manual RESET with AND parallel circuit or Wired-or.
4. TXD, RXD must be transmitted at TTL level. RS232C converted signals may be arranged into reverse.
5. About User VCC
   Connector No.5 VIN on programmer side and USERVCC on target board need power supplied to work.
6. Resistor volume in reference circuit diagram can be adjusted over 10kΩ～47kΩ.

- **Signal-name of Required RS232C Straight Cable**



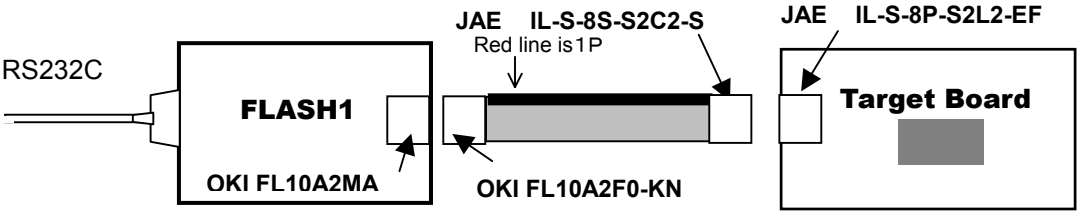
Caution! :The no.4 & 5 lines of the programmer side must be connected appropriately, because of the importance for the steady control form “FLASH1 for Windows”.

- **Signals Between FLASH1 and Target Board**

FLASH1 side		Directions	Target board side	
Signal name	Pin number		Signal name	Pin number
1	GND			
2	GND	● →	GND	1
3	RXD	←	TXD	2
4	TX	→	RXD	3
5	RESET	→	RES	4
6	VIN	←	USERVCC	5
7	FVPP	→	Vpp	6
8	MD	→	MD	7
9	GND	● →	GND	8
10	GND			

USER VCC is consumed about 10mA at FLASH1.

- **Cable-connector-type-name between Target Board and FLASH1**



※OKI･･･OKI Electric Cable Company, Limited. Both OKI (Electric Cable Company,lmd) are MIL standard box connectors.

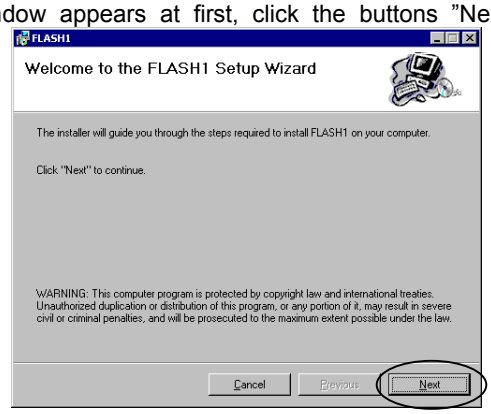
● Preparation 2 - Installation of Control Software –

When the setup program finds the same file name in your PC, the setup program will display the caution recommending you to avoid overwriting. We recommend you to use the file of the install-disk. When using this control software without overwriting, guarantee is not valid. And also we can't guarantee any reflections happened to other applications that well worked before this installation. Refer to the Windows95 / Windows98 manuals for PC operating system. If you have any troubles, feel free to contact us. Our support desk is support@hokutoelectronics.com

①Set the attached CD into the CD drive, open the "Explorer" to find the start file "setup.exe". Double click the icon of the file.

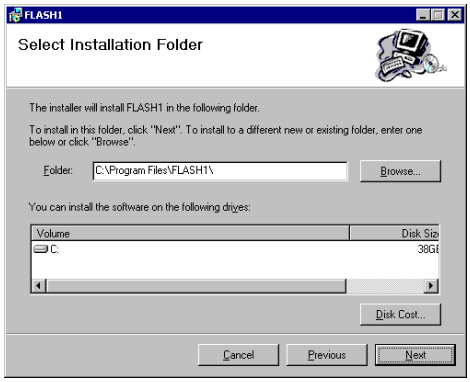
If the message for MDAC files shows, install the MDAC files first before ②(see the right column)

②The start window appears at first, click the buttons "Next".

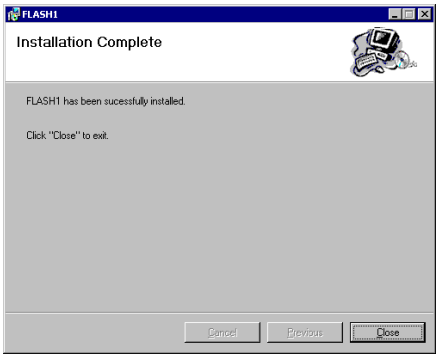

FLASH1
Welcome to the FLASH1 Setup Wizard
The installer will guide you through the steps required to install FLASH1 on your computer.
Click "Next" to continue.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
Previous
Next

③In the next window, the installer find the setup file automatically. Please confirm the install folder, click the buttons "Next". If you change the directory, click the "Browse" button to find the one.

Install windows appear to show the progress. Click the "Next" button to continue the installation until the completion window appears.

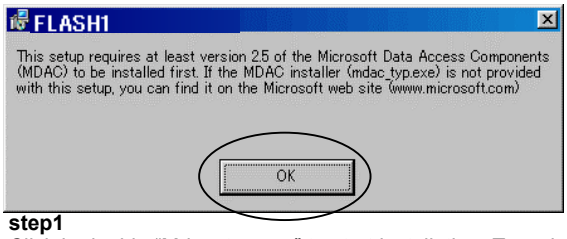


⑤ At this window appears when all the files for FLASH1 control software are set up appropriately, click the button "Close" to end the installation.



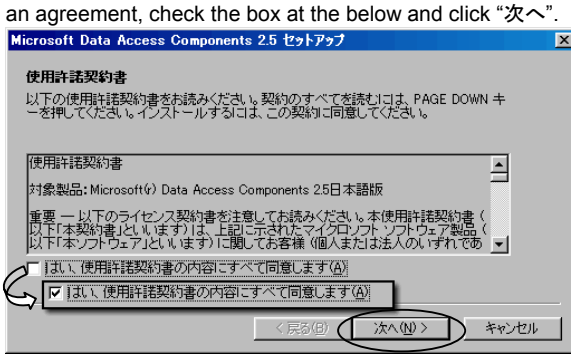
How to install MDAC files

The message below is appeared in the case that MDAC (Microsoft Data Access Components) files were not installed in the PC. Click "ok", and follow the below to set up "Mdac_typ.exe" in the attached CD.


FLASH1
This setup requires at least version 2.5 of the Microsoft Data Access Components (MDAC) to be installed first. If the MDAC installer (mdac_typ.exe) is not provided with this setup, you can find it on the Microsoft web site (www.microsoft.com)
OK

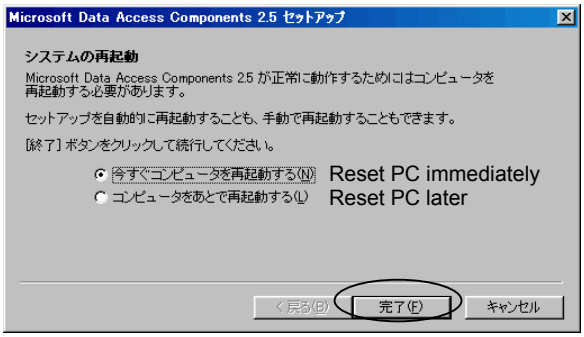
step1

Click in double "Mdac_typ.exe" to start installation. To make an agreement, check the box at the below and click "次へ".

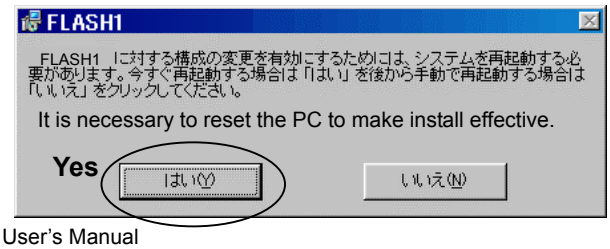


step2

The window below indicates that MDAC files are all set up. Confirm the radio button how to reset the PC, click the "完了"(complete), and continue to the FLASH2 installation after reset the PC.



After the completion window, the window below appears when the PC requests reset, select "はい" to make installation effective.



● Basic Operation

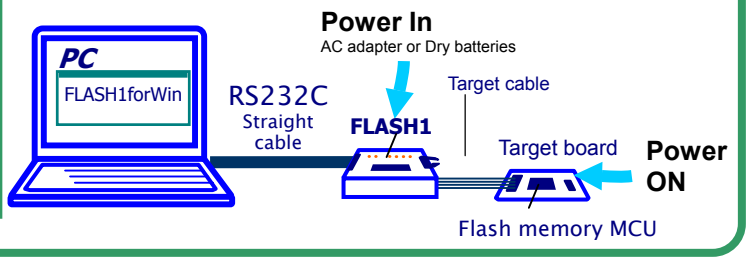
Prepare target board Please refer to **preparation 1**

Install the control software Please refer to **preparation 2**

HSB board can be used as it is.

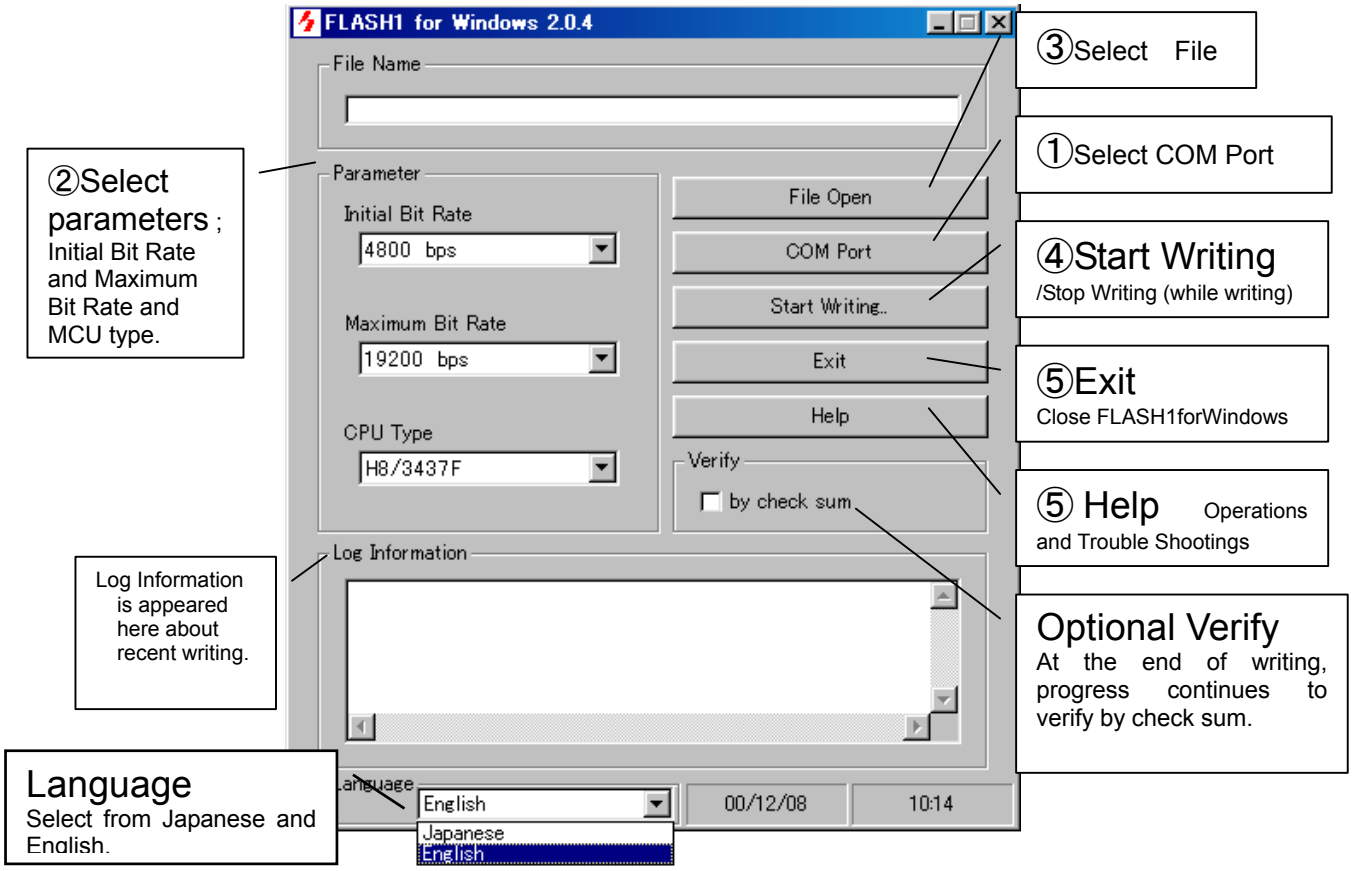
Connecting PC and target board Please refer to the diagram below

Execute the software
Supply the power to objects
Setting (MCU ・communication rate)
Select file
Complete programming
Finish



Start FLASH1forWindows

FLASH1forWindows can execute with select “Hokuto Denshi” group in “Program” from pull-up menu of “Start” , if you had nothing to change in installation.



Check “Help” of FLASH1forWindows

Help in **FLASH1** for Windows -contents-

●At Beginning●Feature●Specifications●Connections and Advices●Preparation of Target Board
●Basic Operation●Writing Flow of FLASH1●Timing Chart in Start of Boot Mode●Error Messages
Lack of Vpp Voltage/Bit Rate Adjustment Error/ Invalid Code Accepted/
Erase Error/Flash Memory Erase Error/Invalid File Format/Data Transmission Error

Caution!! Sample programs are not automatically copy at the installation of the control software.
We recommend copying at first, if you need confirm the connections.

Other Expendable Supplies

Expendable Supplies Name	Price	Notes
AC 100 volt Adapter	¥2500	Verified only in Japan
FLASH1 Target Cable (10p)	¥1200	Available for FLASH MATE 12V1

Please confirm about the charges for above.

Please visit our web site for the latest information.
http://www.hokutodenshi.co.jp
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